

REMARKS

The Office Action dated April 29, 2009 was received and carefully reviewed.

Prior to this response, claims 1-9 were pending in the subject application. By this response, no claims have been amended, canceled, or added. Claims 10-20 were canceled by a previous reply. Accordingly, claims 1-9 remain pending in the subject application.

Reconsideration and withdrawal of the currently pending rejections are requested for the reasons set forth below.

Claim Rejections - 35 U.S.C. § 103

Claims 1-9 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kreuter (U.S. Patent No. 4,013,552) (*Kreuter*, hereinafter) in view of Ehlert (U.S. Patent No. 5,110,403) (*Ehlert*, hereinafter). Applicants traverse the rejection for at least the following reasons.

Applicants respectfully submit that present independent claim 1, and the claims dependent therefrom, are patently distinguishable over *Kreuter* and *Ehlert*, since *Kreuter* and *Ehlert*, either taken alone or in combination, fail to disclose, teach, or suggest all of the features recited in the pending claims. For example, independent claim 1 (emphasis added) recites:

1. Sewage slurry ultrasonic apparatus for applying ultrasonic energy to sewage slurry, the apparatus comprising:
an applicator having an outwardly facing surface;
an extender which extends from the outwardly facing surface;
and
at least one booster at the end of the extender remote from the applicator for boosting ultrasonic energy applied thereto to cause the applicator to oscillate,
wherein the applicator, extender and booster are integrally formed.

Thus, independent claim 1 is directed, *inter alia*, the feature of the applicator, extender and booster are integrally formed. Applicants respectfully submit that neither *Kreuter* nor *Ehlert*, either taken alone or in combination, disclose the feature that the applicator, extender and booster are integrally formed, as recited in present independent claim 1.

In section 6 of the Office Action, the Examiner contends that *Kreuter* discloses a sewage slurry ultrasonic apparatus with an applicator and an extender (see the Office Action, e.g., page 3). However, the Examiner does correctly admit that *Kreuter* fails to disclose at least one booster (see the Office Action, e.g., page 4), and is reliant upon *Ehlert* for disclosing this feature (see the Office Action, e.g., page 3). However, claim 1 of the present application requires that the applicator, extender and booster be integrally formed.

As explained in the response dated February 13, 2009, neither *Kreuter* nor *Ehlert* disclose, teaches, or suggests forming its components integrally. While the Examiner appears to have accepted this, he instead relies upon *Howard v. Detroit Stove Works*, 150 U.S. 164 (1893) to argue that it would have been obvious to form the components integrally because, as a general obviousness rule, “*forming in one piece an article which has formerly been formed two pieces and put together involves only routine skill in the art*”. Applicants disagree with this assertion for at least the following reasons.

First and foremost, the reasoning given in *Howard v. Detroit Stove Works* is not relevant to the present case because the facts of the two case are entirely different. In *Howard v. Detroit Stove Works*, the device concerned is a stove in which a grate was cast in one piece rather than two. However, in the present case, it was clear that the skilled person at the time the present invention was made would have recognized that there was no advantage or functional distinction between forming the grate as one piece rather than two. Consequently, based on these facts it was held in *Howard v. Detroit Stove Works* that forming the grate as a single piece involved no more than mere routine design choice. This, however, contrasts with the present application where the claimed invention provides unexpected advantages over the prior art and represented a significant departure from conventional teaching at the time of the invention.

Prior to the present invention, conventional boosters were always provided as separate components, as seen in *Ehlert*. At that time, this was seen as essential in order to allow for: (1) different boosters to be attached depending on the particular operational and environmental requirements, and (2) the booster to be removed and replaced after failure (page 3, lines 21-29 of the present application). This fact is supported by the Examiner’s failure to find prior art

reference which discloses an integrally formed applicator, extender and booster. Applicants therefore went against conventional teaching at the time of the invention by forming the applicator, extender, and booster integrally. This was surprisingly found to provide benefits in terms of longevity and reduced servicing requirements which significantly outweighed the loss of design and operational flexibility associated with forming the components integrally.

Accordingly, it is clear that the claimed invention is structurally and functionally distinct from the prior art ultrasonic devices because it represents a clear departure from the construction used in such prior art devices and provides significant advantages there over which would not have been apparent to the skilled person at the time of the invention. Consequently, the reasoning set out in *Howard v. Detroit Stove Works* is not relevant to the present case and it is therefore submitted that the claimed invention is non-obvious.

Secondly, Applicants wish to note the Examiner's reliance on *Howard v. Detroit Stove Works* for a general obviousness rule for establishing a material fact is misplaced. In *Ochiai*, 71 F.3d at 1570, 37 USPQ2d at 1132. Cir. 1995 the Federal Circuit Court made clear that "no such per se rules exist". This point was further explained in *In re Cofer*, 354 F.2d 664, 667, 148 USPQ 268, 271 (CCPA 1966) by the Court stating "necessarily it is facts appearing in the record, rather than prior decisions in and of themselves, which must support the legal conclusion of obviousness under 35 U.S.C. §103."

Accordingly, prevailing case law makes clear that the Examiner is incorrect to assert that the claimed invention is obvious based on *Howard v. Detroit Stove Works*. In this connection, we would refer the Examiner to USPTO Board of Patent Appeals and Interferences decision *Ex parte MUENCH et al*, Appeal No. 2001-0114, which provides a useful summary of how to correctly apply the prevailing case law in reference to the much older *Howard v. Detroit Stove Works* case.

Following this summary, in rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a prima facie case of obviousness (see *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ 1443, 1444 (Fed. Cir. 1992) and *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984)). The Examiner can satisfy this burden by showing that some

objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter (see *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988)). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants (see *Oetiker*, 977 F.2d at 1445, 24 USPQ at 1444. See also *Piasecki*, 745 F.2d at 1472, 223 USPQ at 788).

Accordingly, when determining obviousness, "*the Examiner can satisfy the burden of showing obviousness of the combination only by showing some objective teaching in the prior art or individual to combine the relevant teachings of the references.*" (see *In re Lee*, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), citing *In re Fritch*, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992)). Furthermore, as made clear in *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617, "*Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'*".

In the present case, *Kreuter* provides no evidence to those skilled in the art that the components of its electroacoustic horn could be formed integrally. In fact, *Kreuter* teaches just the contrary, that the extender and nozzle (applicator) should be formed as separate components to permit different nozzles to be attached to the electroacoustic horn dependent on requirements (see *Kreuter*, for example, col. 5, ll. 35-44). Furthermore, *Kreuter* could not even be formed integrally because of its construction, with internal passageway P and the profiled nozzles N (see *Kreuter*, e.g., Figure 4(c)).

Ehlert also provides no evidence to those skilled in the art that the components of its ultrasonic horns could be formed integrally. In this respect, the Examiner has referred to *Ehlert* as teaching a booster. However, contrary to the claimed invention, the booster (601) in *Ehlert* is provided as a separate, detachable, component (see *Ehlert*, e.g., col. 14, ll. 62-68 and Fig. 6).

Therefore, the Examiner has failed to provide evidence that it was either known to one of ordinary skill in the art or suggested to one of ordinary skill in the art to modify the *Kreuter* or the *Ehlert* references to obtain the invention as recited in claim 1. Indeed, *Kreuter* even teaches away from the integral construction taught by the present invention in that it teaches a complex

design which could not be formed integrally. As such, the Examiner cannot reasonably sustain his obviousness rejection against the claimed invention.

For at least the reasons stated above, and the reasons set forth in the response filed February 12, 2009, neither *Kreuter* nor *Ehlert*, taken either alone or in combination, anticipate or render obvious each and every feature recited in independent claim 1. Accordingly, Applicants respectfully request that the rejection under 35 U.S.C. § 103(a) be withdrawn, and that independent claim 1 be allowed.

Claims 2-9 are also allowable at least by virtue of their dependency from independent claim 1, but also because they are distinguishable over the prior art.

In view of the foregoing, it is submitted that the present application is in condition for allowance and a notice to that effect is respectfully requested. If, however, the Examiner deems that any issue remains after considering this response, the Examiner is invited to contact the undersigned attorney/agent to expedite the prosecution and engage in a joint effort to work out a mutually satisfactory solution.

Except for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No. 19-2380. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully submitted,

NIXON PEABODY LLP

Date: August 27, 2009

/Anthony J. Canning, Reg. #62,107/

Anthony J. Canning

Registration No. 62,107

NIXON PEABODY LLP

200 Page Mill Road

2nd Floor

Palo Alto, CA 94306-2022

☎ (650) 320-7782

☎ (866) 958-0591

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FRANK JOHN MUENCH, Jr., GORDON THOMAS BORCK
and ALLEN LEROY JOHNSON

Appeal No. 2001-0114
Application 09/240,712

ON BRIEF

Before HAIRSTON, FLEMING, and GROSS, **Administrative Patent Judges**.

FLEMING, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1 through 12 and 16 through 27.

The invention relates to a current limiting fuse. Figure 1 shows a cutaway side view of a current limiting fuse of the invention with two winding supports. See page 3, lines 31 through 32, of Appellants' specification. In particular, the

winding supports 105, 110 are contained in a cylindrical tube 135 that is sealed on each end by caps 140, 145. The caps 140, 145 are connected to plates 150 and 155 which are mounted to the ends of the winding supports 105, 110. See page 4, lines 28 through 32 of Appellants' specification. Appellants disclose on pages 6 and 7 of the specification that using a separate winding support for each element reduces problems associated with maintaining the separation between the elements in operation and in filling the fuse with silica sand. Furthermore, the winding support allows control and maintenance of the positioning needed for proper operation. See page 6, line 29, through page 7, line 5, of Appellants' specification. Furthermore, the end plates 145, 150 support and position the individual winding supports thereby fixing the winding supports 105 and 110 to prevent movement of the elements that could adversely affect the operation of the fuse. See page 7, lines 1 through 5, of Appellants' specification.

Representative claims 1 and 16 are reproduced as follows:

1. A high current fuse comprising:
a housing;

a first electrically-conductive cap attached to a first end of the housing;

a second electrically-conductive cap attached to a second end of the housing;

at least two winding supports positioned in the housing, extending between the caps, and spaced from one another;

at least one electrically-conductive element wound around a first one of the winding supports and electrically connected to the caps; and

at least one electrically-conductive element wound around a second one of the winding supports and electrically connected to the caps;

wherein at least a portion of both of the two winding supports is defined by a single structure.

16. A high current fuse comprising;

a housing defining a central longitudinal axis;

a first electrically-conductive cap attached to a first end of the housing;

a second electrically-conductive cap attached to a second end of the housing;

at least two non-coaxial winding supports positioned in the housing spaced from one another and extending between the caps;

at least one electrically-conductive element wound around a first one of the winding supports and electrically connected to the caps; and

at least one electrically-conductive element wound around a second one of the winding supports and electrically connected to the caps;

wherein at least a portion of both of the two non-coaxial winding supports is defined by a single structure.

REFERENCES

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The references relied on by the Examiner are as follows:

Grzeczowski	3,145,282	Aug. 18, 1964
Cameron	3,569,891	Mar. 9, 1971
Knapp, Jr.	3,962,666	Jun. 8, 1976

REJECTION AT ISSUE

Claims 1 through 4, 7 through 12, 16 through 21 and 24 through 27 stand rejected under 35 U.S.C. § 103 as being unpatentable over Grzeczowski.

Claims 5 and 22 stand rejected under 35 U.S.C. § 103 as being unpatentable over Grzeczowski in view of Knapp.

Claims 6 and 23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Grzeczowski in view of Knapp and Cameron.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the briefs¹ and answer for the respective details thereof.

¹Appellants filed an appeal brief on July 7, 2000. Appellants filed a reply brief on October 10, 2000. The Examiner mailed an office communication on November 30, 2001, stating the reply brief has been entered and considered.

OPINION

After a careful review, we will not sustain the Examiner's rejection of claims 1 through 12 and 16 through 27 under 35 U.S.C. § 103.

Appellants argue on page 4 of the brief that Grzeczowski fails to teach or suggest "wherein at least a portion of both of the two winding supports is defined by a single structure" as recited in claim 1. Appellants also argue on page 6 of the brief that Grzeczowski fails to teach or suggest "wherein at least a portion of both of the two non-coaxial winding supports is defined by a single structure" as recited in claim 16.

On page 3 of the final rejection, the Examiner admits that Grzeczowski does not teach a single structure for providing a pair of winding supports as recited in claim 1. Similarly on page 4 of the final rejection, the Examiner admits that Grzeczowski fails to teach that at least a portion of both of the two winding supports is defined by a single structure as recited in Appellants' claim 16. The Examiner takes official notice that it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the two winding supports into a single structure as an obvious design choice because it has been held by case law that forming one

piece in an article which has been formerly formed into two pieces and put together involves only routine skill in the art. The Examiner relies on **Howard v. Detroit Stove Works**, 150 U.S. 164 (1893). See pages 3 and 4, of the Examiner's final rejection. In the Examiner's answer, the Examiner maintains that **Howard v. Detroit Stove Works** holds that it is within one of design choice to form one piece of article which has formerly been formed into two pieces and putting them together involves only routine skill in the art. See pages 3 and 4 of the Examiner's answer.

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a **prima facie** case of obviousness. **In re Oetiker**, 977 F.2d 1443, 1445, 24 USPQ 1443, 1444 (Fed. Cir. 1992). **See also In re Piasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. **In re Fine**, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming

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forward with evidence or argument shift to the Appellants.

Oetiker, 977 F.2d at 1445, 24 USPQ at 1444. **See also Piasecki**, 745 F.2d at 1472, 223 USPQ at 788.

When determining obviousness, "the [E]xaminer can satisfy the burden of showing obviousness of the combination 'only by showing some objective teaching in the prior art or individual to combine the relevant teachings of the references.'" **In re Lee**, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), **citing In re Fritch**, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). "Broad conclusory statements regarding the teaching of multiple references, standing alone, are not 'evidence.'" **In re Dembiczak**, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617. "Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact." **Dembiczak**, 175 F.3d at 999, 50 USPQ2d at 1617, **citing McElmurry v. Arkansas Power & Light Co.**, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993).

"In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and arguments." **In re Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[T]he Board must not only assure that the requisite findings are made, based on

evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). With these principles in mind, we commence review of the pertinent evidence and arguments of Appellants and Examiner.

Upon our view of the evidence, we find that the record fails to show any suggestion to lead one of ordinary skill in the art to make the modification as proposed by the Examiner. In particular, we note that the Examiner's assertion that this modification is a matter of design choice is only a conclusionary statement not based on genuine issue of material fact. In particular, we note that the claims all require a single structure for providing a pair of winding supports. This structure corresponds to elements 155 and 150 shown in figure 1. Furthermore, we note that this structure is not a nonfunctional limitation but indeed has a function. Appellants' specification discloses on pages 6 and 7 that the end plates 145 and 150 of the two winding supports 105 and 110 provide the function of maintaining the separation between the elements in

operation and filling the fuse with sand. In particular, the end plates 145 and 150 prevent the movement of the elements which would adversely affect the operation of the fuse.

Upon our view of Grzeczowski, we find no evidence within Grzeczowski to those skilled in the art that the winding supports need to be defined as a single structure so as to prevent movement of the winding supports. In fact, Grzeczowski teaches just the contrary that the winding supports are separate elements not connected together. Therefore, we find that the Examiner has no substantial evidence that it was either known to one of ordinary skill in the art or suggested to one of ordinary skill in the art to modify the Grzeczowski reference to obtain the invention as recited in Appellants' claims 1 and 16.

Appellants' reliance on **Howard v. Detroit Stove Works** for establishing a material fact is misplaced. In fact, our reviewing court has counseled the PTO that there are no **per se** rules. In **In re Ochiai**, 71 F.3d 1565, 1570, 37 USPQ2d 1127, 1132 (Fed. Cir. 1995) the Examiner had relied on case law for a general obvious rule. The Federal Circuit stated that no such **per se** rules exist. **See Ochiai**, 71 F.3d at 1570, 37 USPQ2d at 1132. Cir. 1995). The Court stated there is not "Durden

obviousness rejections" or "Albertson obviousness rejections," but rather only section 103 obviousness rejections. **Id.** This was further explained by our predecessor Court by stating "[n]ecessarily it is facts appearing in the record, rather than prior decisions in and of themselves, which must support the legal conclusion of obviousness under 35 U.S.C. § 103." **In re Cofer**, 354 F.2d 664, 667, 148 USPQ 268, 271 (CCPA 1966).

In view of the foregoing, we will not sustain the rejection of claims 1 through 4, 7 through 12, 16 through 21 and 24 through 27 under 35 U.S.C. § 103 as being unpatentable over Grzeczowski. In particular, we note that all the claims recite that at least a portion of both the winding supports system is defined by a single structure.

Now we will turn to the rejection of claims 5 and 22 under 35 U.S.C. § 103 as being unpatentable over Grzeczowski in view of Knapp and claims 6 and 23 under 35 U.S.C. § 103 as being unpatentable over Grzeczowski in view of Knapp and Cameron. Upon our view of Knapp and Cameron, we fail to find that either reference teaches or suggests a single structure for providing a pair of winding supports as required by the claims. Therefore, we will not sustain these rejections as well.

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Therefore, we will not sustain the Examiner's decision in
rejecting claims 1 through 12 and 16 through 27 under 35 U.S.C.
§ 103.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
MICHAEL R. FLEMING)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
ANITA PELLMAN GROSS)	
Administrative Patent Judge)	

MRF:pgg

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Fish & Richardson P.C.
1425 K street, N.W.
11th Floor
Washington, DC 20005-3500